Amendments to the Claims

1. (Currently amended) A method of producing a bioactive human coagulation factor VIII, comprising:

a) subcloning a full length sequence encoding human coagulation factor VIII into a plant expression vector and obtaining a subcloned plant expression vector;

b) transferring the subcloned plant expression vector into a plurality of plant cells;

c) selecting a plurality of positive transformants from the plurality of plant cells on an antibiotic selective media;

d) growing the plurality of plant cells in whole plants or suspensions; and

e) extracting and purifying the human coagulation factor VIII from the plurality of plant cells.

2. (Original) The method as recited in claim 1, wherein transferring is by direct particle bombardment.

3. (Previously presented) The method as recited in claim 1, wherein transferring is by *Agrobacterium* mediated transformation.

4. (Original) The method as recited in claim 1, wherein transferring is by pollen transformation.

5. (Previously presented) The method as recited in claim 3, wherein *Agrobacterium* mediated transformation comprises the steps of:

a) introducing said plant expression vector into *Agrobacterium*;

b) co-cultivating the *Agrobacterium* containing the subcloned plant expression vector with the plurality of plant cells.

6. (Currently amended) A method of producing an active human coagulation factor VIII from plant cells, comprising the steps of:

a) introducing a full length polynucleotide sequence encoding human coagulation factor VIII into a plant expression vector;

b) transforming plant cells with said plant expression vector;

c) cultivating said transformed cells; and

d) obtaining the human coagulation factor VIII.

7. (Currently amended) The method as recited in claim 6, wherein said ~~encoding~~ polynucleotide sequence is a cDNA.

8. (Previously presented) The method as recited in claim 6, wherein factor VIII is cultivated in a whole plant.

9. (Previously presented) The method as recited in claim 6, wherein factor VIII is cultivated in a plant tissue culture.

10. (Previously presented) The method as recited in claim 6, wherein factor VIII is extracted and purified by a process selected from the group consisting of protein precipitation, ultrafiltration, affinity chromatography, and electrophoresis.

11. (Cancelled).

12. (Previously presented) A method of producing an active human coagulation factor VIII from plant cells, comprising the steps of:

a) introducing a sequence encoding human coagulation factor VIII into a plant expression vector;

b) transforming plant cells with said plant expression vector;

c) cultivating said transformed cells; and

d) obtaining the human coagulation factor VIII,

wherein said sequence encodes a full length of said human coagulation factor VIII.

13. (Currently amended) ~~The method as recited in claim 6~~,) A method of producing an active human coagulation factor VIII from plant cells, the method comprising:

introducing a sequence encoding human coagulation factor VIII into a plant expression vector wherein said encoding sequence encodes a full length of said human coagulation factor VIII deleting a B-domain;

transforming plant cells with the plant expression vector;

cultivating the transformed cells; and

obtaining the B-domain deletion form of human coagulation factor VIII.

14. (Cancelled).

15. (Currently amended) ~~The method as recited in claim 6~~, A method of producing an active coagulation factor VIII from plant cells, the method comprising:

introducing a sequence encoding human coagulation factor VIII into a plant expression vector wherein a sequence encoding A2 epitope of human coagulation factor VIII in said sequence is replaced with an analogous porcine sequence;

transforming plant cells with the plant expression vector;

cultivating the transformed cells; and

obtaining the porcine A2 epitope substituted form of human coagulation factor VIII.

Claims 16-17 (Cancelled).

18. (Original) The method as recited in claim 6, further comprising modifying the encoding sequence by adding a regulatory element selected from the group consisting of leader sequences, signal peptides, transcription promoters or enhancers, and transcription terminators.

19. (Previously presented) The method as recited in claim 6, wherein said encoding sequence is provided by adding transcription promoter to the upstream of 5' end of the encoding sequence; and adding a transcription terminator to the downstream of 3' end of the encoding sequence.

20. (Previously presented) The method as recited in claim 19, further comprising adding a sequence encoding a signal peptide between the transcription promoter and the upstream 5' end of the encoding sequence.

21. (Original) The method as recited in claim 20, further comprising adding a regulatory element encoding an untranslated leader sequence between the transcription promoter and the additional regulatory element encoding the signal peptide to enhance mRNA stability.

22. (Original) The method as recited in claim 20, further comprising adding a regulatory element encoding an untranslated leader sequence at the downstream or 3' end of the encoding sequence to enhance mRNA stability.

23. (Currently amended) A method of producing an active human coagulation factor VIII using *Agrobacterium*-mediated transformation, comprising:

a) modifying a full length polynucleotide sequence encoding human coagulation factor VIII for subcloning into a plant expression vector;

b) subcloning said sequence into said plant expression vector;

c) transferring the plant expression vector to *Agrobacterium*;

d) co-cultivating plant cells with said *Agrobacterium*;

e) selecting positive transformants from the co-cultivated culture on a selection medium;

f) permitting growth of transgenic plant cells into whole plants or suspensions; and

g) extracting a quantity of human coagulation factor VIII from the plant cells.